

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-8-459  
Relating to Certification of New Heavy-Duty Motor Vehicle Engines

GENERAL MOTORS CORPORATION

Pursuant to the authority vested in the Air Resources Board by Sections 43100, 43102 and 43103 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-3;

IT IS ORDERED AND RESOLVED: That the following General Motors Corporation 1989 model-year gasoline engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) of 8,501 to 14,000 pounds for which the sales of engines certified for these engine families for use in motor vehicles of 8,501 to 14,000 pounds GVWR shall not exceed five percent (5%) of the manufacturer's total California sales of engines used in motor vehicles in this GVWR category:

<u>Engine Family</u>	<u>Displacement Liters (Cubic Inches)</u>	<u>Exhaust Emission Control Systems (Special Features)</u>
KGM04.8ABA8	4.8 (292)	Air Injection-Pump
KGM07.4AGA9	7.4 (454)	Air Injection-Pump Exhaust Gas Recirculation

Engine models and codes are listed on attachments.

The manufacturer has elected to certify those engines used in motor vehicles of 8,501 to 14,000 pounds GVWR to emission standards for engines used in motor vehicles over 14,000 pounds GVWR in accordance with 40 CFR 86.088-10(a)(3)(i). The manufacturer will use Tune-Up Label statements in accordance with California Motor Vehicle Tune-Up Label Specifications and will submit final California sales figures within 60 days after the end of production.

The following are the certification emission standards for these engine families:

<u>Hydrocarbons gm/bhp-hr</u>	<u>Carbon Monoxide gm/bhp-hr</u>	<u>Nitrogen Oxides gm/bhp-hr</u>
1.9	37.1	6.0

The following are the certification emission values for these engine families:

<u>Engine Family</u>	<u>Hydrocarbons</u> <u>gm/bhp-hr</u>	<u>Carbon</u> <u>Monoxide</u> <u>gm/bhp-hr</u>	<u>Nitrogen Oxides</u> <u>gm/bhp-hr</u>
KGM04.8ABA8	0.8	18.2	5.4
KGM07.4AGA9	0.9	24.9	5.3

BE IT FURTHER RESOLVED: That the Executive Officer has been provided all material required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Administrative Code, Section 2036).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

BE IT FURTHER RESOLVED: That if the manufacturer exceeds the 5% limit stipulated in 40 CFR 86.088-10(a)(3)(i), penalties as specified in California Health and Safety Code Section 43154 shall apply.

The Bureau of Automotive Repair will be notified by copy of this order and attachments.

Executed at El Monte, California this 14<sup>th</sup> day of July, 1988.



K. D. Drachand, Chief  
Mobile Source Division

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
GASOLINE HEAVY DUTY ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 459

Engine Families: KGM04.8ABA8  
KGM05.7AGA9  
KGM07.4AGA9  
KGM05.7BLA4

Engine CID (Liters) - Type: 292 (4.8), 350 (5.7), 366 (6.0), 427 (7.0), 454 (7.4)

ABBREVIATIONS:

Ignition System

CA-Centrifugal Advance  
EEC-Electronic Engine Control  
EI-Electronic Ignition  
ESAC-Electronic Spark Advance  
Control  
VA-Vacuum Advance  
VR-Vacuum Retard  
ECU-Electronic Control Unit

Fuel System

CFI, CL, DID, DIP, EFI, MFI  
nV-nVenturi Carburetor

GM Abbreviations

A/C-Air Conditioning  
FC-Forward Control  
HD-Heavy Duty  
CID-Cubic Inch Displacement  
TBI-Throttle Body Injection  
RWD-Rear Wheel Drive  
4x2-Two Wheel Drive  
4x4-Four Wheel Drive  
6x4-Four Wheel Drive

Exhaust Emission Cont System

AIP-Air Injection Pump  
AIV-Air Injection Valve  
CL-Closed Loop  
DBC-Dual Bed Catalyst  
EGR-Exhaust Gas Recirculation  
EIC-Electronic Injection Control  
EM-Engine Modification  
OC-Oxidation Catalyst System  
OS-Oxygen Sensor  
HOS-Heated Oxygen Sensor  
SPL-Smoke Puff Limiter or  
Throttle Delay  
TOC-Trap Oxidizer, Continual  
TOP-Trap Oxidizer, Periodical  
TR-Thermal Reactor  
TWC-Three-Way Catalyst System

Special Features

CCV-Combustion  
Chamber Valve  
CFI-Central Fuel  
Injection  
DID-Diesel  
Injection-  
Direct  
DIP-Diesel  
Injection-  
Prechamber  
EFI-Electronic  
Fuel Injection  
IC-Intercooler/  
Aftercooler  
MFI-Mechanical  
Fuel Injection  
TC-Turbocharger

Engine: Front (all Vehicles)

Drive: See Chassis Type (Page 2), all 4x2 vehicles are RWD.

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AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6-459

Engine Family: KGM04.8ABA8

Exhaust Emission Control System: AIP

Liter (CID): 4.8L (292)

ENG MODEL (ENG CODE)	MAXIMUM RATED HP AT RPM	RATED TORQUE AT RPM	IGNITION SYS (DISTRIBUTOR) MFR PART NO.	FUEL SYSTEM (CARBURETOR) MFR PART NO.	EGR VALVE MFR PART NO.	CATALYST MFR PART NO.
L25 (1)	125 @ 4000	215 @ 800	Delco Remy 1103719	Rochester 17086096, 17086101	NA	NA

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AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 459

Engine Family: KGM07.4AGA9

Exhaust Emission Control System: AIP/EGR

Liter (CID): 7.4L (454), 7.0L (427), 6.0L (366)

ENG MODEL (ENG CODE)	MAXIMUM RATED HP AT RPM	RATED TORQUE AT RPM	IGNITION SYS (DISTRIBUTOR) MFR PART NO.	FUEL SYSTEM (CARBURETOR) MFR PART NO.	EGR VALVE MFR PART NO.	CATALYST MFR PART NO.
L86 (1) 366 CID	205 @ 3800	320 @ 2800	Delco Remy 1103751	Rochester 15625765	17088094	NA
L43 (2) 427 CID	225 @ 3800	355 @ 2400	Delco Remy 1103752	Rochester 15625766	17088094	NA
LE8 (1) (3) 454 CID	230 @ 3800	370 @ 2800	Delco Remy 1103717	Rochester 17085212, 17085004	17085919	NA

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